

CIVIL AERONAUTICS BOARD

ACCIDENT INVESTIGATION REPORT

Adopted: December 4, 1952

Released: December 10, 1952

EASTERN AIR LINES, INC., AND AIR FORCE CIVIL AIR PATROL, OCALA, FLORIDA
NOVEMBER 27, 1951

The Accident

Shortly before 1150 EST, ^{1/}November 27, 1951, a DC-3 aircraft, N 25646 operated by Eastern Air Lines, Inc., ^{2/} as Flight No. 167 between Atlanta, Georgia, and St. Petersburg, Florida, was involved in an air collision with an Air Force L4-J aircraft, on loan to and operated by the Civil Air Patrol. The collision occurred approximately three-quarters of a mile south of the southern boundary of Taylor Field, Ocala, Florida, at an altitude estimated as between 700 and 800 feet. The DC-3 aircraft sustained only minor damage as a result of the collision and completed, without further difficulty, its scheduled landing on Runway 21 at Taylor Field. The 20 occupants, consisting of 17 passengers and a crew of three, were not injured. The pilot and only occupant of the L4-J lost his life when this aircraft crashed into the heavily wooded area directly below the point of collision.

History of the Flight

Eastern's Flight 167 departed Atlanta, Georgia, on a VFR flight plan at 0806, November 27, 1951. After making several scheduled en route stops, it arrived at Gainesville, Florida, at 1122 and departed for Ocala, Florida, its next scheduled stop, at 1126 ramp time. The crew, before departure, was given the 1050 special Ocala weather: ceiling 800 feet scattered, estimated 22,000 feet broken, visibility 6 miles haze, surface wind north-northeast 3 mph. Upon reaching a point approximately 20 miles from Ocala, the flight made radio contact with Eastern's station at Taylor Field, Ocala, giving its approximate position, and in return was given the altimeter setting of 29.91 and the following information: "Wind light and variable, local traffic using Runway 21." ^{3/}

At approximately 1100, November 27, 1951, Pilot John H. Macy taxied away from the Civil Air Patrol hangar at Taylor Field in the L4-J, after having filled out Civil Air Patrol Form No. 3 which indicated that the proposed flight

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- ^{1/} All times referred to herein are Eastern Standard and based on the 24-hour clock.
 - ^{2/} Hereinafter referred to as "Eastern."
 - ^{3/} Taylor Field does not have a control tower and all Eastern flights are handled by station personnel via company radio.

was for the purpose of maintaining his pilot proficiency. The aircraft involved was on loan by the United States Air Force to the Florida Wing of the Civil Air Patrol, and was, at the time of the accident, attached to the Ocala Civil Air Patrol Squadron. The Ocala Squadron commander assisted in the preparation for this flight to the extent of hand-cranking the engine. Pilot Macy's activities from the time he left the hangar at 1100 until 1145, when he was again observed taxiing into take-off position on Runway 21, are not known. There are no known witnesses to the subsequent take-off although there was one witness who saw the L4-J as it passed the open space between two hangars, at which time it was headed in a southwesterly direction along Runway 21. However, several persons observed the collision, at which time both aircraft were on a heading of approximately 120° and at an altitude estimated as between 700 and 800 feet, with the L4-J slightly lower and climbing.^{4/}

The left propeller of the DC-3 made several span-wise cuts into the left wing of the L4-J in such a manner that the wing, for all practical purposes, was destroyed. The aircraft immediately fell into a heavily wooded area about three-quarters of a mile south of the airport while the DC-3, after circling the area for a few minutes, proceeded to the airport and made a normal landing at 1210.

Investigation

Eastern's flight crew consisted of Captain James E. Bishop and Copilot Robert E. Meder. Copilot Meder, flying from the right side, made the take-off at Gainesville, Florida, and, taking up a heading of approximately 170°, climbed to 1500 MSL and proceeded VFR toward Ocala, Florida. At a point some 20 miles from Taylor Field, contact was made with Eastern's station via company radio and the altimeter setting of 29.91 was received as well as the information that local traffic was using Runway 21. The "before landing" check list was completed north-northwest of the field, power was reduced, and a shallow left descending turn was begun to bring the flight path perpendicular to and somewhat south of the windward end of the active runway.

Copilot Meder, who was flying the aircraft at the time of the accident, stated as follows: "Approximately 4 miles North-Northwest of the field I switched on the No Smoking sign and completed the Before Landing Check List, except for lowering gear and mixtures rich. As usual, at this range, I was checking the area as completely as possible for other aircraft, and it was my intention to make a left hand circle of the field and land on runway #21. I checked the air speed and reduced power west of the field and started a shallow turn to the left to bring the plane perpendicular to and somewhat south of the active runway, so that we would have the field and adjacent area in the best possible field of vision and also to be setting up a standard left-hand traffic pattern.

^{4/} See Appendix A.

"I distinctly remember that as we approached the field I could see the full length of the active runway and the surrounding area, to and away from it, seeing no aircraft activity whatsoever. We continued in a Southeasterly direction to position the airplane for the downwind leg, at the same time scanning for local air traffic. I did not see any plane at any time during the approach. I did not see the airplane as it made contact with our airplane. I asked Captain Bishop if we had hit a buzzard and he said, 'I think it was a plane.' Immediately after the impact Captain Bishop took the controls and pulled up to approximately 1000 ft. . . ."

Captain Bishop stated, "As we approached the Southwest end of runway 2L-3 on a Southeasterly heading, we were approximately one mile from the field, descending very slowly. At no time during the approach, exclusive of the impact, did I see the light aircraft. The co-pilot and I both were looking to see the reported traffic as we were well aware that on an Airport with no control tower and calm wind that any runway may be in use.

"As we reached the Southwest end of the runway and still a mile from it I saw a blurred silver object pass directly beneath the left wing and at the same instant felt a slight jar. I immediately took over the control, and looking at the left wing, saw that the landing light cover had been knocked off. I took a quick survey of the engine instruments and hydraulic pressure and noted them to be normal.

"Co-Pilot Meder said, 'was that a buzzard?', to which I replied, 'No, I think it was an airplane.' I noticed by the clock it was 11:50, and our altitude was between 700 and 800 feet. I flew the airplane straight and level for a minute or two, still on a Southeasterly heading. The Airplane handled and acted normal in every respect. There was no vibration or shaking. Then I started a wide left circle of the field, climbing to about 1000 ft.

"During the circle the Company called and reported a light plane had crashed South of the field. * * *

"Since our plane flew normally, and no malfunctioning was apparent, I circled the Airport and the reported crash area for approximately 15 minutes. During this time we had several radio contacts with the Company. Since we could not see any wreckage I asked for the surface wind again, which was given as Southeast 5. I checked the Airport for traffic and completed the 'before landing' check list which consisted of the landing gear and mixtures. We made a normal landing on Runway Eleven and taxied to the ramp and deplaned the passengers."

John H. Macy, age 33, was issued Airman Certificate No. 146594 with private and single-engine land ratings August 19, 1941. As a result of an automobile accident in 1946, he lost the sight of his left eye. Mr. Macy enrolled in the refresher flight training course conducted by the Marion County Vocational High School, on December 12, 1950. This course was concluded on June 25, 1951, during which time he received 6 hours 5 minutes dual and 5 hours 5 minutes solo time in a Piper J-3 aircraft owned and operated by the school. On January 9, 1951, Dr. E. G. Peek, Jr., issued

Macy a CAA medical certificate which indicated the left eye to be artificial and the right eye to have 20-20 vision.^{5/} However, Macy held no medical waiver to indicate that this physical defect had been found compensated for by his aeronautical experience, ability, and judgment, as required by Part 29 of the Civil Air Regulations.

An application for senior membership in the Civil Air Patrol, approved by the Ocala Squadron commanding officer on June 30, 1951 indicated Macy had accumulated 50 hours solo flight time and 2,000 hours as sergeant gunner in the Army Air Force between July 1943 and October 1945. An application for an aeronautical rating dated August 27, 1951, was subsequently approved by the Ocala Squadron Proficiency Board, which consisted of the operations officer and two other squadron members.

Pilot Macy was given a flight check in a Piper J-3 aircraft on October 23, 1951, by a member of the Ocala Squadron Proficiency Board and subsequently made five solo flights, totaling 3 hours 15 minutes, all of which were made from Taylor Field and in the L4-J aircraft involved.

Both Captain Bishop and Copilot Meder held current medical certificates without limitations and were properly certificated with appropriate ratings for the flight involved. The DC-3 was also properly certificated and loaded within the allowable gross weight. The L4-J was not certificated as a civil aircraft but carried Air Force Identification No. 45-5151A. Both aircraft were silver in color with the usual company and Air Force markings.

Taylor Field operates under a standard left-hand traffic pattern, and a set of traffic regulations approved by the airport manager and the CAA Chief, Flight Operations Branch, on September 9, 1949, both of which had been previously posted and were in effect on the day of the accident. The traffic pattern, however, does not provide any horizontal limits, there being limits only on altitude and angles at which aircraft shall leave or enter it. It provides that aircraft shall leave the traffic pattern at an angle of 45° and at an altitude less than 700 feet, and enter it at an angle of 45° to the downwind leg at an altitude of 700 feet.

Analysis

Weather conditions can not be considered a factor in this accident unless we feel a visibility reduced to six miles by haze is of consequence. In this instance we have two aircraft with coloring of low perceptibility approaching each other on converging courses against a background of haze. Testimony of the Eastern pilots indicates they were performing no cockpit duties other than flying the aircraft, and that they were maintaining at least the normal vigilance to be expected when approaching an airport having no control tower. There is no reason to believe the pilot of the L4-J was any less vigilant as he climbed out of the field following his takeoff. No witness has been found who observed the L4-J continuously from takeoff to the point of collision.

^{5/} See Appendix B.

While the exact time of collision is not known, conflicting testimony placing it not earlier than 1145 and not later than 1150, it apparently occurred some one and one-half to two minutes after the 14-J started its takeoff. From the evidence available, it is reasonable to assume that following takeoff, Pilot Macy continued straight ahead to a point approximately three-quarters of a mile beyond the boundary of the airport where, after making a 90° turn to the left, he continued his climb to the point of collision. It is also reasonable to assume that the pilot did not observe the DC-3 approaching the airport from his right since witnesses, who observed both aircraft for a few seconds prior to the impact, noted no evasive action by either. Since the collision occurred while both aircraft were flying on approximately the same heading, with the 14-J slightly below and climbing, it is apparent that Pilot Macy, after completing the 90° left-hand turn, was no longer in a position to observe the slightly higher DC-3 then approaching directly from the rear. Also, it is entirely possible that the 14-J in this lower climbing attitude was not within the normal range of vision of the DC-3 crew during the last few seconds preceding the collision.

In studying the circumstances surrounding this accident, consideration has been given to the fact that Pilot Macy's vision was confined entirely to his right eye. Whether or not this was a contributing factor in this accident is not known. However, it can not be successfully argued that Pilot Macy failed to see the approaching DC-3 because of this restriction to his range of vision when we consider the fact that the DC-3 was manned by two pilots with unimpaired vision who testified that at no time did they observe the 14-J prior to the collision.

The fact that Macy had an artificial eye was not known to the pilot who flight checked him on October 23, 1951, although they had known each other for approximately two years. Neither was it known to the Commanding Officer of the Ocala Civil Air Patrol Squadron who had, prior to this accident, held several short conversations with Macy.

Pursuant to the duties imposed upon it by the Civil Aeronautics Act, the Board has adopted certain standards for physical fitness of airmen. These standards are set forth in Part 29 of the Civil Air Regulations. If, upon examination by a physician, the airman is found to meet the standards appropriate to the airman certificate he holds or seeks, the examining physician will issue to him a "medical certificate." This certificate is not a license of any kind, but constitutes acceptable evidence to the Administrator that the holder has the necessary physical qualifications. Moreover, Part 43 of the Civil Air Regulations prohibits a pilot from utilizing his airman certificate unless he has a current medical certificate in his possession.

Under the standards specified in Part 29 an airman with only one eye would not qualify. However, the Administrator is given express authority to waive the physical requirements in cases where he finds that the physical deficiency is compensated for by the airman's operational record, ability, and judgment. In granting this power to the Administrator, the Board did not contemplate that it would be exercised by the examining doctor, but rather by personnel of the Administrator, who will be in a better position to determine

the airman's aeronautical qualifications. In the main, this has been done, but the procedure established for this purpose by the Administrator did not guarantee that it would always be carried out in practice in the case of a periodic renewal of a medical certificate.

In this instance, although the examining physician stated he forwarded Mr. Macy's medical history to the appropriate Regional Medical Officer, there is no record that the Medical Officer ever received it. Consequently, Mr. Macy was never given a medical flight test by a CAA Aviation Safety Agent, but continued to fly under the medical certificate issued to him by his physician.

Subsequent to the accident the Administrator revised his procedures to require that any medical certificate involving a waiver be issued only by the CAA Regional Office, thus precluding the possibility of a recurrence of a situation such as existed in this case. The Board and the Administrator are currently studying the entire problem involving the certification procedures for pilots in order to determine the need for any further changes, either regulatory or procedural.

Subsequent to and as a result of this accident, approximately two feet of the outboard portion of the wings of silver-colored aircraft operating from Taylor Field were painted a contrasting color to make the aircraft more easily seen in flight.

Since there were no horizontal limitations to the traffic pattern, it can not be determined whether the L4-J had continued its climb following takeoff to a point outside the assumed limits of the pattern, or whether the DC-3 was operating within these limits when the collision occurred.

Eastern began its scheduled operations into Taylor Field on April 30, 1950. As stated, the standard left-hand traffic pattern in effect at the time of this accident was approved by the airport manager and the CAA on September 9, 1949. Since this accident, however, there has been approved and placed in operation a Combination Pattern for safer handling of slow and fast aircraft, which pattern is described in detail in Technical Standard Order N-14 issued by the Civil Aeronautics Administration under date of May 24, 1950. This pattern, in effect, superimposes above the standard left-hand rectangular pattern a circular one operating at a minimum altitude of 1,200 feet, exclusive of takeoffs and landings. While this undoubtedly will provide better separation of aircraft having wide differences in speed, it must not in any degree be considered a substitute for continuous vigilance on the part of all pilots operating in the vicinity of this or any other airport.

Findings

On the basis of all available evidence, the Board finds that:

1. The carrier, its aircraft and crew were properly certificated for the operation involved.

2. The L4-J was a military aircraft on loan to and being operated by the Ocala Squadron of the Civil Air Patrol.

3. Pilot Macy (a) held a currently effective airman certificate with single engine land and private ratings, (b) held a current third class medical certificate, (c) did not hold a waiver of physical standards compensated for by his demonstrated aeronautical experience, ability and judgment as required by Part 29 of the Civil Air Regulations.

4. Both aircraft were being operated in accordance with visual flight rules.

5. Both aircraft were in an airworthy condition prior to the accident.

Probable Cause

The Board determines that the probable cause of this accident was the failure of the pilots of both aircraft to observe the other in time to take the necessary evasive action.

BY THE CIVIL AERONAUTICS BOARD:

/s/ OSWALD RYAN

/s/ JOSH LEE

/s/ JOSEPH P. ADAMS

/s/ CHAN GURNEY

S U P P L E M E N T A L D A T A

Investigation and Hearing

The Civil Aeronautics Board received notification at 1255, November 27, 1951, from the Miami office of Eastern Air Lines that an accident had occurred at Ocala, Florida, at approximately 1150, in which one of their aircraft was involved. An investigation was immediately initiated in accordance with the provisions of Section 702(a)(2) of the Civil Aeronautics Act of 1938, as amended. A public hearing in connection with the investigation of this accident was ordered by the Civil Aeronautics Board and was held in Ocala, Florida, December 19, 1951.

Air Carrier

Eastern Air Lines, Inc., is a Delaware corporation with head offices in New York City. The company holds a certificate of public convenience and necessity authorizing it to engage in air transportation between various points in the United States including Ocala, Florida. It also holds an air carrier operating certificate issued by the Civil Aeronautics Administration.

Flight Personnel

Captain J. E. Bishop, age 36, held a currently effective airline transport rating certificate, and at the time of the accident had accumulated 7708 hours flying time, of which 7317 were in DC-3 aircraft. He has been employed by Eastern Air Lines since August 1, 1937. His last CAA physical examination was accomplished on September 12, 1951.

Copilot R. E. Meder, age 26, held a currently effective pilot certificate with commercial, instrument, and multi-engine land ratings. He had been employed by Eastern Air Lines since May 7, 1951, and had a total accumulated time as pilot of 1336 hours, of which 734 were in DC-3 aircraft. His last CAA physical examination was accomplished May 5, 1951.

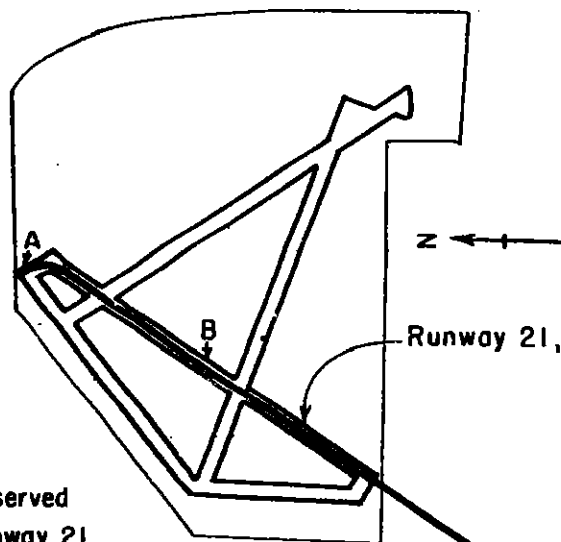
Pilot John H. Macy held pilot certificate No. 146594, issued August 19, 1941, and reissued on September 13, 1951. His last physical examination was received from Dr. E. G. Peek, Jr., January 9, 1951, which indicated that the left eye was artificial and the right eye had 20/20 vision. His total time as pilot was approximately 50 hours.

The Aircraft

Aircraft N 25646 was a currently certificated DC-3 equipped with Wright Cyclone GR-1820-202A engines and Hamilton Standard propellers. All maintenance records as of November 27, 1951, indicated the aircraft to be in an airworthy condition.

The L4-J aircraft appeared to have been well maintained and to have been in an airworthy condition at the time of the accident. Its maintenance was the responsibility of the Ocala Wing of the Civil Air Patrol.

TAYLOR FIELD, OCALA, FLA.



A - Point where L4-J was observed to turn into Runway 21.

B - Point where L4-J was observed passing southwest down Runway 21.

C - Probable flight path of L4-J.

X - Approx. point of collision.

E - Approx. position where both aircraft were observed flying at approx. the same altitude and direction.

D - Probable flight path of DC-3

D

FORM ACA 1000

UNITED STATES OF AMERICA
DEPARTMENT OF COMMERCE . . . CIVIL AERONAUTICS ADMINISTRATION

MEDICAL CERTIFICATE, STUDENT AND PRIVATE PILOT

THIS CERTIFIES that I personally examined

John Henry Macy
(FIRST) (MIDDLE) (SURNAME)

Address Anthony
71A.

6 MAR 18 165 5'9 1/2" Br. Br. M
(DATE OF BIRTH) (WEIGHT) (HEIGHT) (HAIR) (EYES) (SEX)

and find him free from any disease that would be likely to cause sudden incapacity and, except as noted hereon, that he possesses no structural defect or limitation. I have forwarded the report of my findings to the Civil Aeronautics Administration.

Date 9 Jan 51

Place Ocala 71A

Signed E. B. Ruck, Jr. M.D.

Degree MD State Board License No. La 3001

STRUCTURAL PHYSICAL DEFECTS:

List defects. If none, so state

Impaired vision Artificial Left eye

Impaired hearing 0

Deformity 0

Limited motion 0

Muscular weakness 0

Amputation 0

Remarks: Loss of Left eye in

Auto Accident 1946

20/20 Rt. eye

John H. Macy
(SIGNATURE OF APPLICANT)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both

AIR COLLISION - TAYLOR FIELD, OCALA, FLORIDA
NOVEMBER 27, 1951